



Approved for use through 07/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	10/706,645
		Filing Date	November 12, 2003
		First Named Inventor	Charles R. Rapier
		Art Unit	*
		Examiner Name	*
Total Number of Pages in This Submission		Attorney Docket Number	1856-42801(40183)

### ENCLOSURES (check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to Group
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to Group ( <i>Appeal Notice, Brief, Reply Brief</i> )
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Other Enclosure(s) ( <i>please identify below</i> ): <i>Form PTO-1449 (4 p.); THIRTY-NINE (39) Cited References; and acknowledgement postcard</i>
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Request for Refund	
<input checked="" type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> CD, Number of CD(s)	
<input type="checkbox"/> Certified Copy of Priority Document(s)		
<input type="checkbox"/> Response to Missing Parts/Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

Remarks

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm  
Or  
Individual Name

Jeffrey L. Johnson 53,078

Signature

Date

February 4, 2004

### CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or Printed Name

Sandra K. Begley

Signature

Date

February 4, 2004

119125.01/1856 42801

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P. O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /PW/

If you need assistance in completing the form, call 1-800-PTO-9199 and selection option 2



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Charles R. Rapier et al.	§ GROUP ART UNIT:
SERIAL NO.:	10/706,645	§
FILED:	November 12, 2003	§ EXAMINER:
FOR:	Stabilized Alumina Supports, Catalysts Made Therefrom, And Their Use In Partial Oxidation	§
		§

INFORMATION DISCLOSURE STATEMENT

Atty. Dkt. No.: 1856-42801(40183)

Date: February 4, 2004

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This Information Disclosure Statement, including completed Form PTO-1449, comprises a list of pertinent art of which Applicants are aware. If this application was filed prior to June 30, 2003, a copy of each publication listed on Form PTO-1449 is enclosed herewith.

The submission of this Information Disclosure Statement and the references submitted therewith is not an admission that the art cited is "prior" with respect to the present invention, nor is it a representation, that no better art exists. Applicants hereby reserve the right to swear behind or otherwise disprove any alleged "prior" nature of any art cited should the facts support and the situation warrant such an action. It is submitted that the art cited does not constitute a bar to the patentability of Applicants' invention under 35 U.S.C. § 102 or § 103.

As this Information Disclosure Statement is being filed pursuant to 37 C.F.R. § 1.97(b), no certification or fee is required.

Respectfully submitted,

Jeffrey L. Johnson  
Reg. No. 33,078  
CONLEY ROSE, P.C.  
P. O. Box 3267  
Houston, Texas 77253-3267  
(713) 238-8000  
ATTORNEY/AGENT FOR APPLICANT



Form PTO-1449 (Modified)

**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**  
 (Use several sheets if necessary)

1 of 4

Atty. Docket No.  
1856-42801 (40183)Serial No.  
10/706,645Applicant  
Charles R. Rapier et al.Filing Date  
November 12, 2003

Group

**REFERENCE DESIGNATION U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
	AB	3752775	08/14/1973	Yamaguchi et al.	252	464	
	AB	4537873	08/27/1985	Kato et al.	502	242	
	AC	4585752	02/27/1985	Ernest	502	303	
	AD	4738946	04/19/1988	Yamashita et al.	502	303	
	AC	4793797	12/27/1988	Kato et al.	143	7	
	AC	4961786	10/09/1990	Novinson	106	692	
	AC	5837634	11/17/1998	McLaughlin et al.	501	127	
	AH	6399528	06/04/2002	Krell et al.	501	80	03/05/2001
	AI	2003/0032554	02/13/2003	Kato et al.	502	302	05/13/2002

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	Translation YES NO

**OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)**


EXAMINER /Paul Wartalowicz/ DATE CONSIDERED 11/22/2010

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.



Submitter for form 1449B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

2

of

4

### Complete if Known

Application Number	10/706,645
Filing Date	November 12, 2003
First Named Inventor	Charles R. Rapier
Group Art Unit	
Examiner Name	

Attorney Docket Number

1856-42801(40183)

### OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T <sup>2</sup>
	AJ	Amato et al., <i>Sintering of Pelleted Catalysts for Automotive Emission Control</i> , pp. 187-197 (1975)	
	AK	Arai et al., <i>Recent Progress in High-Temperature Catalytic Combustion</i> , <i>Catalysis Today</i> , 10 (1991) pp. 81-94	
	AL	Arai et al., <i>Thermal Stabilization of Catalyst Supports and their Application to High-Temperature Catalytic Combustion</i> , <i>Applied Catalysis A: General</i> 138 (1996) pp. 161-176	
	AM	Artizzu-Duart et al., <i>Catalytic Combustion of Methane on Substituted Barium Hexaaluminates</i> , <i>Catalysis Today</i> 59 (2000) pp. 163-177	
	AN	Beguin et al., <i>Stabilization of Alumina by Addition of Lanthanum</i> , <i>Applied Catalysis</i> 75 (1991) pp. 119-132	
	AO	Bish et al., <i>Quantitative Phase Analysis Using the Rietveld Method</i> , <i>J. Appl. Cryst.</i> (1998) 21, pp. 86-91	
	AP	Cai et al., <i>Atomic Scale Mechanism of the Transformation of <math>\gamma</math>-Alumina to O-Alumina</i> , <i>Physical Review Letters</i> , Vol. 89, No. 23, (12/02/2002) pp. 235501-1 - 235501-4	
	AQ	Chen et al., <i>High Temperature Thermal Stabilization of Alumina Modified by Lanthanum Species</i> , <i>Applied Catalysis A: General</i> 205 (2001) pp. 159-172	
	AR	Dexpert-Ghys, <i>Optical and Structural Investigation of the Lanthanum <math>\beta</math>-Alumina Phase Doped with Europium</i> , <i>Journal of Solid State Chemistry</i> 19, (1976) pp. 193-204	
	AS	Farrington et al., <i>The Lanthanide <math>\beta''</math> Alumina</i> , <i>Applied Physics A</i> 32 (1983) pp. 159-161	
	AT	Groppi et al., <i>Preparation and Characterization of Hexaaluminates-Based Materials for Catalytic Combustion</i> , <i>Applied Catalysis A: General</i> , 104 (1993) pp. 101-108	
	AU	Jang et al., <i>Catalytic Oxidation of Methane Over Hexaaluminates and Hexaaluminates-Supported Pd Catalysts</i> , <i>Catalysis Today</i> 47 (1999) pp. 103-113	
	AV	Johansson et al., <i>Development of Hexaaluminates Catalysts for Combustion of Gasified Biomass in Gas Turbines</i> , <i>Journal of Engineering for Gas Turbines and Power</i> , Vol. 124 (04/2002) pp. 235-238	
	AW	Kato et al., <i>Preparation of Lanthanum <math>\beta</math>-Alumina with High Surface Area by Coprecipitation</i> , <i>Journal of the American Ceramic Society</i> , 70 [7] (07/1987) pp. C-157-159	
	AX	Levy et al., <i>The Effect of Foreign Ions on the Stability of Activated Alumina</i> , <i>Journal of Catalysis</i> 9 (1967) pp. 76-86	

Examiner Signature	/Paul Wartalowicz/	Dated Considered	11/22/2010
--------------------	--------------------	------------------	------------

FEB 10 2004

Substitute for form 1449B/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 3 of 4 Attorney Docket Number 1856-42801(40183)

**Complete if Known**

<b>Application Number</b>	10/706,645
<b>Filing Date</b>	November 12, 2003
<b>First Named Inventor</b>	Charles R. Rapier
<b>Group Art Unit</b>	
<b>Examiner Name</b>	

<b>OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS</b>		
Examiner Initials*	Cite No.*	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) or title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.
AY	Liu et al., <i>Partial Oxidation of Methane over Nickel Catalysts Supported on Various Aluminas</i> , Korean Journal of Chemical Engineering 19 (5) pp. 735-741 (2002)	T <sup>2</sup>
AZ	Liu et al., <i>Partial Oxidation of Methane over Ni/Ce-ZrO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub></i> , Korean Journal of Chemical Engineering 19(5) pp. 742-748 (2002)	
BA	Machida et al., <i>Effect of Additives on the Surface Area of Oxide Supports for Catalytic Combustion</i> , Journal of Catalysts 103 (1987) pp. 385-393	
BB	Machida et al., <i>Analytical Electron Microscope Analysis of the Formation of BaO-6Al<sub>2</sub>O<sub>3</sub></i> , Journal of American Ceramic Society 71[12] pp. 1142-47 (1988)	
BC	Machida et al., <i>Effect of Structural Modification on the Catalytic Property of Mn-Substituted Hexaaluminates</i> , Journal of Catalysis 123 (1990) pp. 477-785	
BD	Matsuda et al., <i>8th International Congress on Catalysis Volume IV: Impact of Surface Science on Catalysis Structure-Selectivity/Activity Correlations New Routes for Catalyst Synthesis</i> (pp. IV-879-889)	(1984)
BE	Miao et al., <i>Partial Oxidation of Methane to Syngas over Nickel-Based Catalyst Modified by Alkali Metal Oxide and Rare Earth Metal Oxide</i> , Applied Catalysts A: General 154 (1997) pp. 17-27	
BF	Nair et al., <i>Pore Structure Evolution of Lanthana-Alumina Systems Prepared through Coprecipitation</i> , Journal of American Ceramic Society 83[8] (2000) pp. 1942-1946	
BG	Oudet et al., <i>Thermal Stabilization of Transition Alumina by Structural Coherence with LnAlO<sub>3</sub>(Ln = La, Pr, Nd)</i> , Journal of Catalysis 114, (1998) pp. 112-120	
BH	Rahkeev et al., <i>Transition Metal Atoms on Different Alumina Phases: The Role of Subsurfaces Sites on Catalytic Activity</i> , Physical Review B 67, 115414 (2003) pg. 4	
BI	Rietveld, <i>A Profile Refinement Method for Nuclear and Magnetic Structures</i> , Journal of Appl. Cryst. (1969) 2, pp. 65-71	
BJ	Roh et al., <i>Partial Oxidation of Methane over Ni/0-Al<sub>2</sub>O<sub>3</sub> Catalysts</i> , Chemistry Letters 2001 (pp. 666-667) (2001)	
BK	Santos et al., <i>Standard Transition Aluminas, Electron Microscopy Studies</i> , Materials Research, Vol. 3 No. 4 (2000) pp. 104-114	
BL	Schaper et al., <i>The Influence of Lanthanum Oxide on the Thermal Stability of Gamma Alumina Catalyst Supports</i> , Applied Catalysis 7 (1983) pp. 211-220	
AM	Schaper et al., <i>Thermal Stabilization of High Surface Area Alumina</i> , Solid State Ionics 16 (1985) pp. 261-266	
AN	Seo et al., <i>Experimental and Numerical Studies on Combustion Characteristics of a Catalytically Stabilized Combustor</i> , Catalysis Today 59 (2000) pp. 75-86	

Examiner Signature	/Paul Wartalowicz/	Dated Considered	11/22/2010
--------------------	--------------------	------------------	------------

119122.01/1856.42801

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /PW/



Substitute for form 1449B/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

4

of

4

Complete if Known	
Application Number	10/706,645
Filing Date	November 12, 2003
First Named Inventor	Charles R. Rapier
Group Art Unit	
Examiner Name	
Attorney Docket Number	1856-42801(40183)

## OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published	T <sup>2</sup>
	BO	Russell et al., <i>Thermal Transformations of Aluminas and Alumina Hydrates</i> , Industrial and Engineering Chemistry Vol. 42, No. 7 (1950) pp. 1398-1403	
	BP	Subramanian et al., <i>Characterization of Lanthana/Alumina Composite Oxides</i> , Journal of Molecular Catalysts, 69 (1991) pp. 235-245	
	BQ	Taylor, <i>Computer Programs for Standardless Quantitative Analysis of Minerals Using the Full Powder Diffraction Profile</i> , Powder Diffraction, Vol. 6, No. 1 (1991) pp. 2-9	
	BR	Tietz et al., <i>Investigations on Lanthanide-ion-exchanged <math>\beta</math> and <math>\beta''</math>-Alumina</i> , Journal of Alloys and Compounds, 192 (1993) pp. 78-80	
	BS	Tijburg et al., <i>Application of Lanthanum to Psuedo-Boehmite and <math>\gamma</math>-<math>Al_2O_3</math></i> , Chapman and Hall (1991) pp. 6479-6486	
	BT	Weng et al., <i>Mechanistic Study of Partial Oxidation of Methane to Syngas Using In Situ Time-Resolved FTIR and Microprobe Raman Spectroscopies</i> , The Chemical Record Vol. 2, pp. 102-113 (2002)	
	BU	Wu et al., <i>Coupled Thermodynamic-Phase Diagram Assessment of the Rare Earth Oxide-Aluminium Oxide Binary Systems</i> , Journal of Alloys and Compounds, 179 (1992) pp. 259-287	
	BV	Zhou et al., <i>Structures and Transformation Mechanisms of the n, y and O Transition Aluminas</i> , International Union of Crystallography (1991) pp. 617-630	

Examiner Signature	/Paul Wartalowicz/	Dated Considered	11/22/2010
--------------------	--------------------	------------------	------------